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San Carlos Rural Olmec Household Project



Research Year: 1996

Culture: Olmec

Chronology: Early to Middle Pre-Classic

Location: Veracruz, México

Site: San Carlos

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Introduction

The immediate purpose of this investigation was to collect data on the organization of a rural Early to Middle Formative domestic unit in the Olmec heartland of southern Veracruz, México. This site, designated RARO-154, was first located during my 1992 doctoral dissertation survey work (Kruger, 1996) on a large natural gravel elevation at the edge of the Coatzacoalcos River floodplain ([Figure 1.1](#)). It lies approximately halfway between the major Olmec center of San Lorenzo (Cyphers, ed. 1997) and the Olmec ritual offering site of El Manatí (Ortiz, Rodríguez and Delgado, 1997). A large paleochannel of the Coatzacoalcos River dating to before the end of the Early Formative period skirts the northern edge of this elevation, while a range of low dissected hills lies directly to the south. The site is within the limits of the community of San Carlos, municipality of Hidalgotitlán, on terrain used to graze cattle for the support of the community schools. At the time of discovery, much of the site area had been destroyed by modern gravel extraction ([Figure 1.2](#)). Occasional gravel extraction for the maintenance of the nearby road system continues to threaten portions of this and nearby occupation sites.

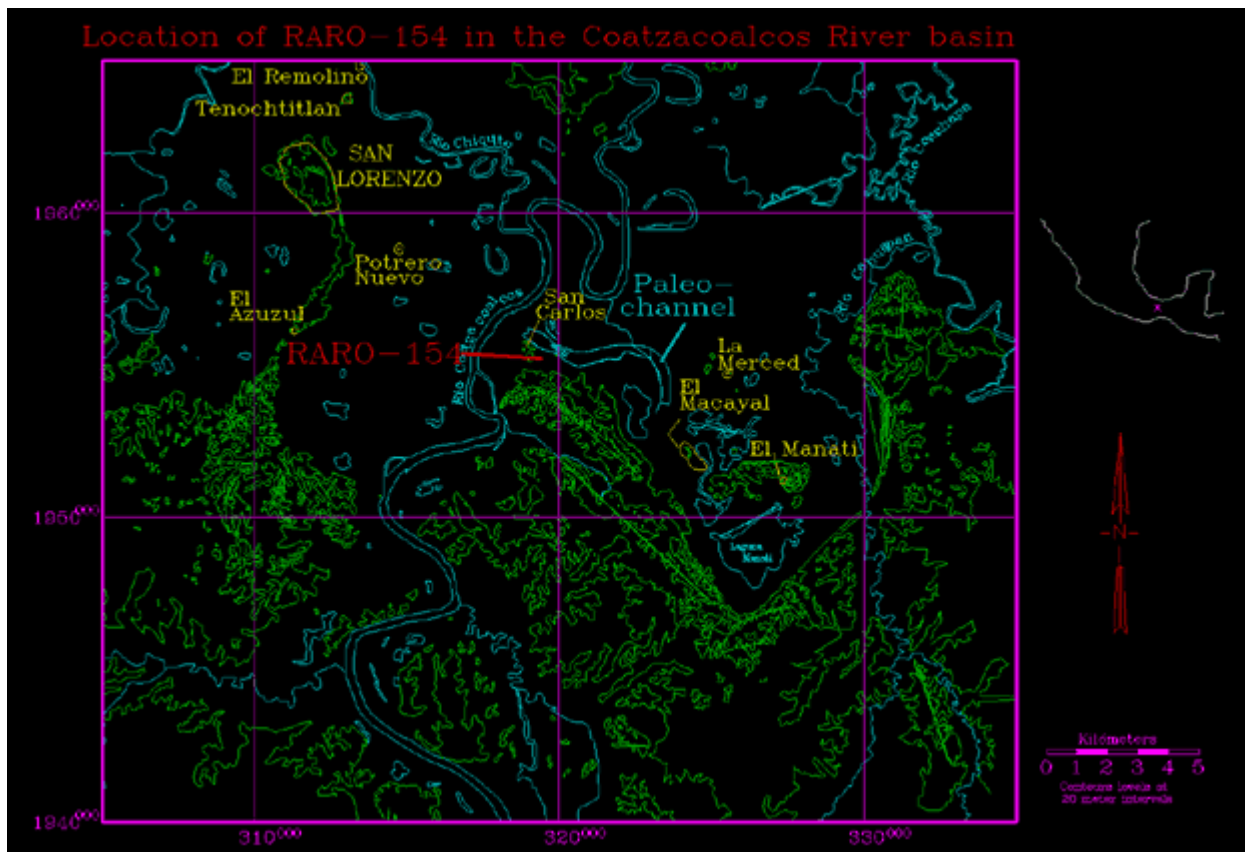


Figure 1.1. The Coatzacoalcos River Basin and the location of RARO-154.



Figure 1.2. The initial discovery of RARO-154 in the gravel pit wall.

The site was originally identified when a large quantity of sherds and several features, including a large trash pit, caps of stone and burned clay, and what appeared to be several fire-pits were noticed eroding from the edge of a modern gravel pit ([Figure 1.2](#), shown above). Recovered ceramics indicated an Early to Middle Formative date for these features. A second, much lighter distribution of material belonging to the Early Postclassic is also present on the western edge of the study area.

The principal goals of this investigation were to examine a rural Olmec domestic unit in terms of: (1) the size and organization of the houselot; (2) the range of activities performed there, especially specialized activities; (3) subsistence data; and (4) its access to special and possibly controlled materials, such as obsidian and religious and/or ideological artifacts and symbols. With this and comparative data from households in other social and ecological situations in the region, we will be in a position to reconstruct the economic, social, and political systems that integrated this region during the crucial period of the Early Formative.

To achieve these goals, investigations were conducted in four stages. First, the entire artifact-bearing section of the gravel-pit wall was cleaned, examined, and plotted, yielding a 53 meter long profile ([Figure 2.1](#), [Figure 2.2](#), [Figure 2.3](#), [Figure 2.4](#), [Figure 2.5](#), and [Figure 2.6](#)). This gave us a good idea of the general stratigraphy and scale of the occupation. The second stage of investigation consisted of placing 167 10cm diameter auger probes in a grid of approximately 30 x 60 meters across the area adjacent to the gravel pit where the cultural features had been located ([Figure 3](#)).

Probes were generally placed at five-meter intervals, while the center section of the test area was tested at 2.5 meter intervals to get finer-grained information of spatial distributions there. Third, three one by one meter test excavations were placed near features to be excavated in order to determine their limits and to study the stratigraphy. Finally, several features visible in the side wall of the gravel pit were excavated, and one test excavation was placed to examine the location of a subsurface probe that showed a high concentration of burned clay. The locations of these excavations are included in Figure 3. All of these investigations were tied into a central three dimensional coordinate grid. The zero point for all three dimensions is fixed by a cement-and-nail marker located at ground level on the floor of the modern gravel pit.

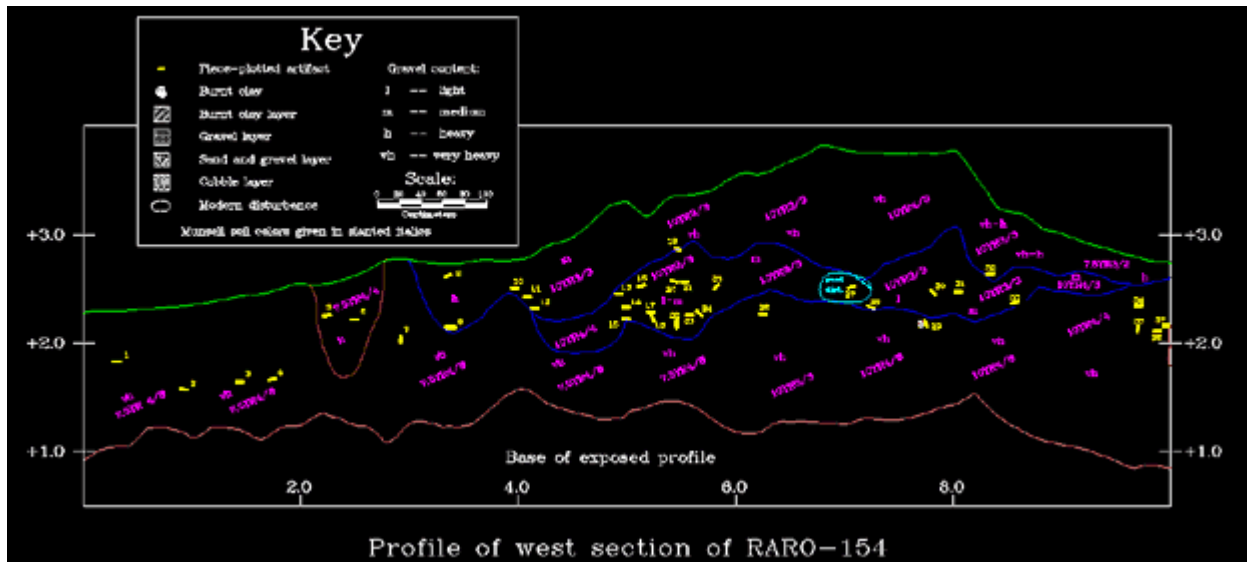


Figure 2.1. West profile of RARO-154 along the gravel pit wall.

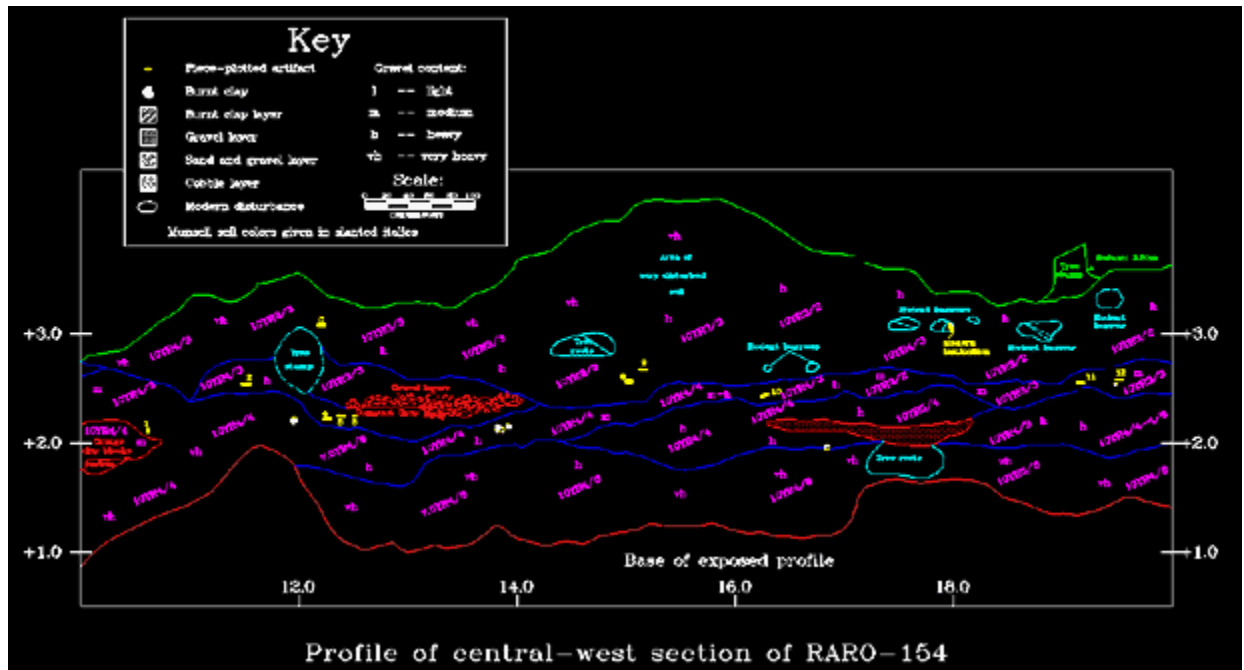


Figure 2.2. Central-west profile of RARO-154 along the gravel pit wall.

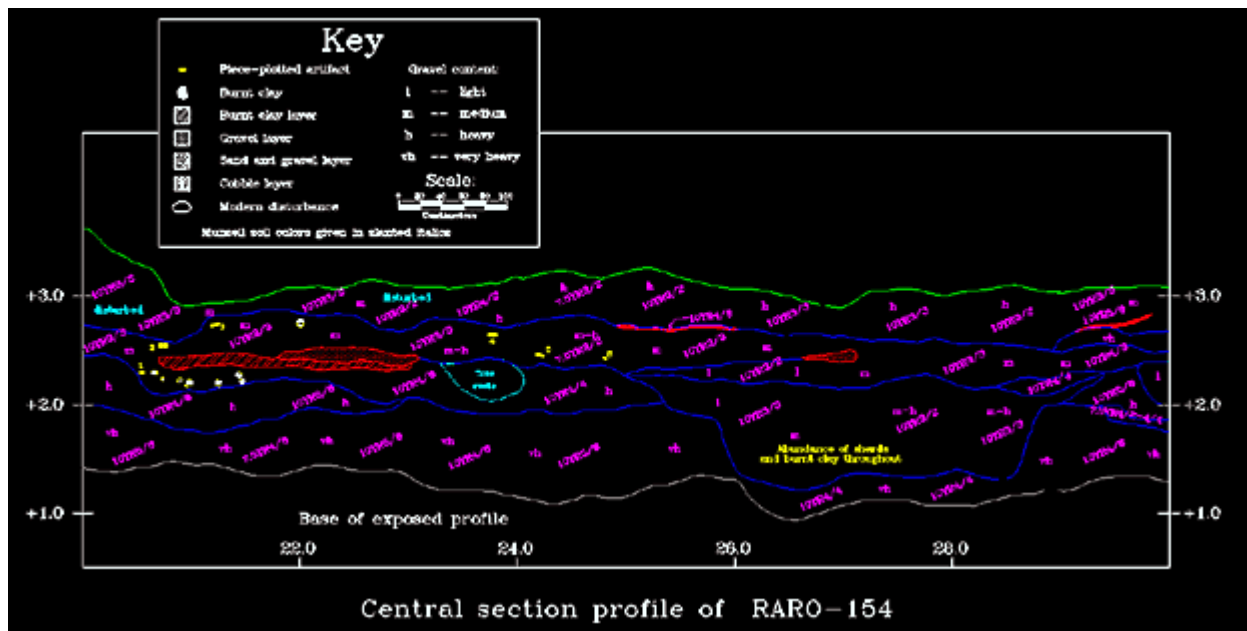
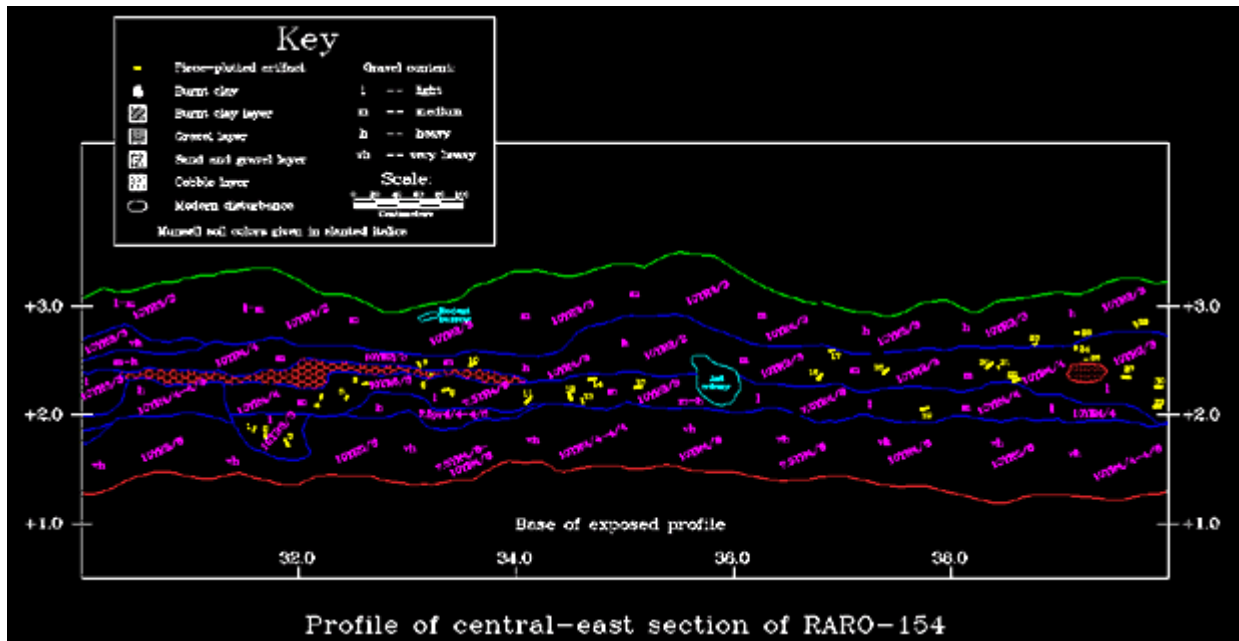
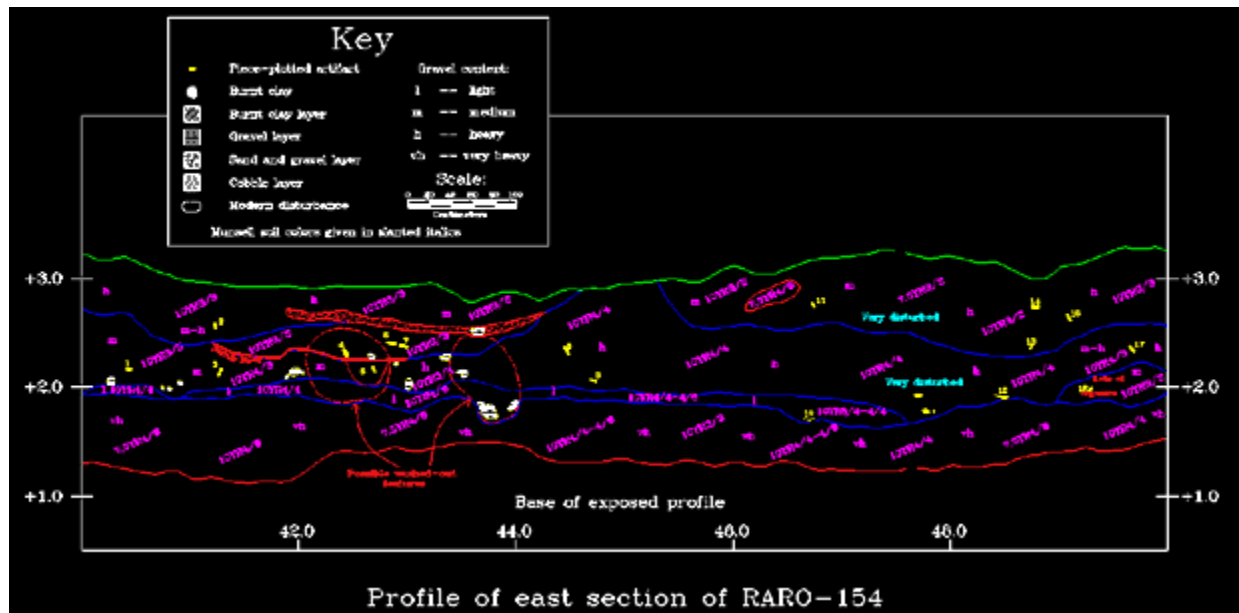


Figure 2.3. Central profile of RARO-154 along the gravel pit wall.



Profile of central-east section of RARO-154
Figure 2.4. Central-east profile of RARO-154 along the gravel pit wall.



Profile of east section of RARO-154
Figure 2.5. East profile of RARO-154 along the gravel pit wall.

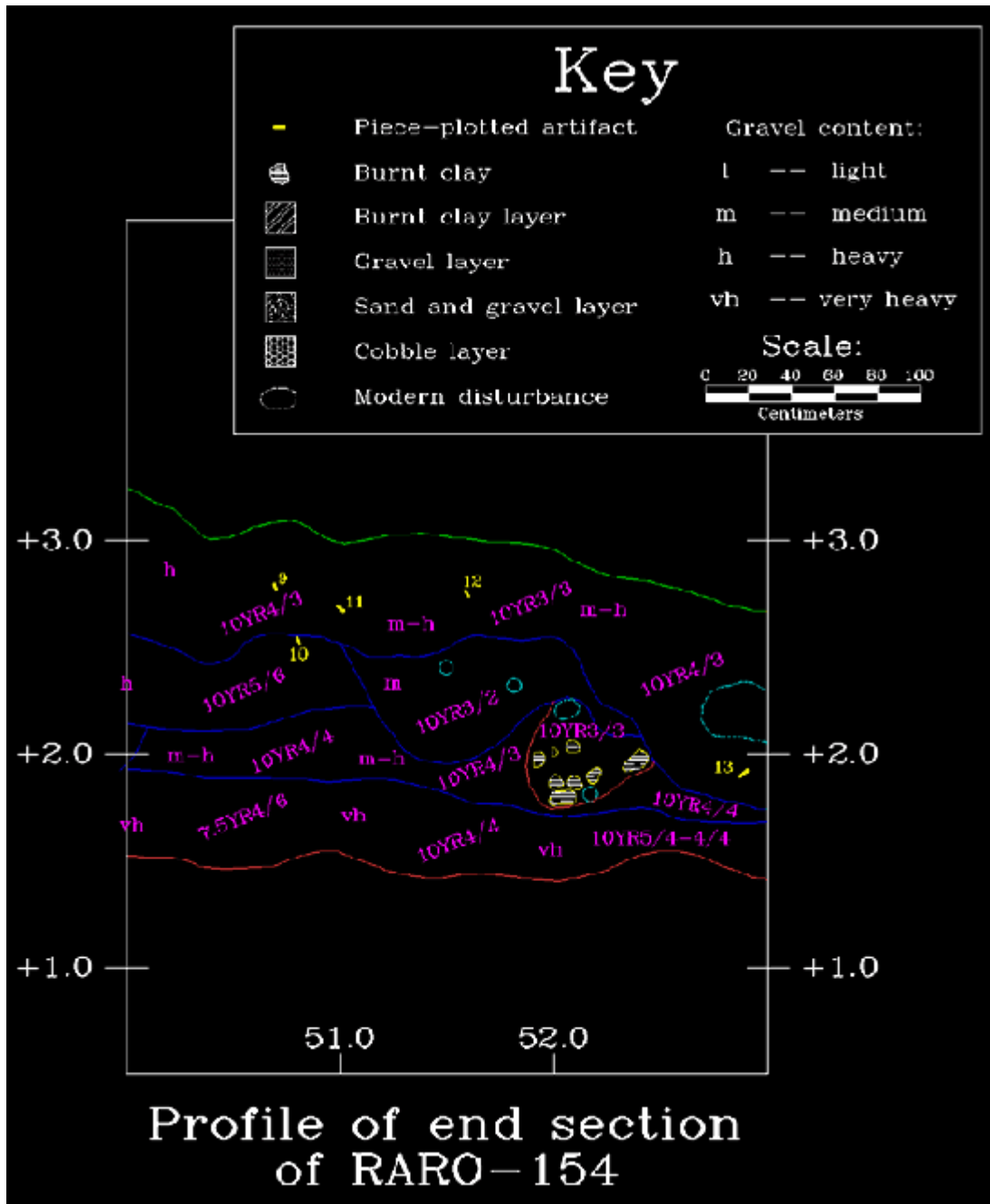


Figure 2.6. End of profile of RARO-154 along the gravel pit wall.

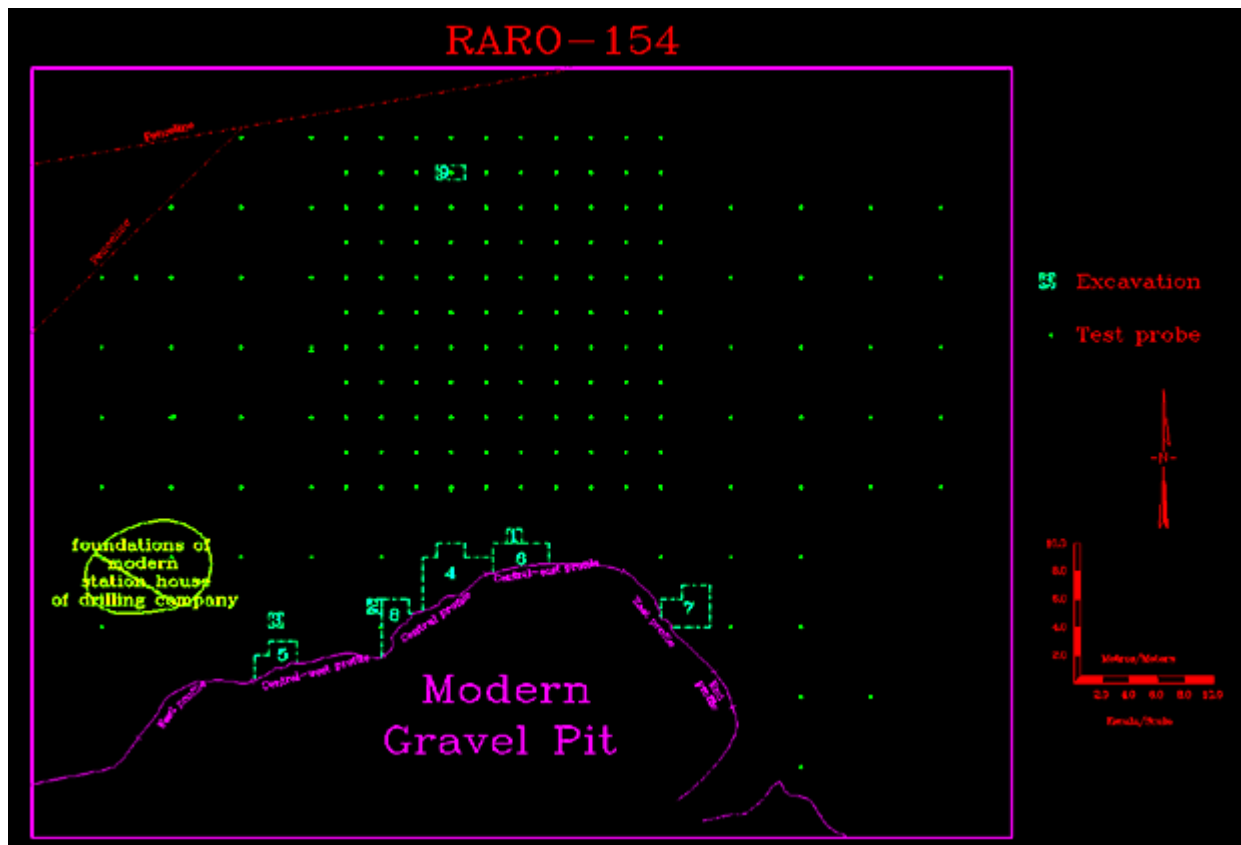


Figure 3. Plan of RARO-154 showing locations of archaeological investigations.

Investigations revealed three distinguishable occupations at this site. The most recent occupation consisted of a concrete and tile house constructed on the western edge of the study area. According to local residents, this house was occupied several decades ago by members of a petroleum and sulfur exploratory team working in the area. Remains of cinder blocks and floor tiles are scattered in a circle of approximately 10 meter diameter, while excavation 5 also recovered some broken cement slabs. This occupation will not be further discussed in this report. Two prehispanic occupations were also uncovered: the lighter occupation yielded material dating to the Early Postclassic while the other dated to the Formative period. These last two occupations are the focus of this investigation.

Submitted 09/01/1999 by:
Robert P. Kruger

RESULTS OF THE INVESTIGATION:

The Postclassic Period Occupation

Evidence for Postclassic period occupation at the site is limited, being located mainly on the western section of the study area. Postclassic materials were found in very low densities across the site in the probes, although in the profile they were almost entirely limited to the western sections.

Extensive Postclassic material and features were recovered only in the two westernmost excavations. In test excavation 3 a shallow pit (or several small pits) with an irregular bottom was dug into a Formative period feature. This pit was filled with a dark sandy loam with charcoal flecks and some Postclassic and very eroded Formative sherds. Another edge of this feature may have been located along the north edge of excavation 5, one meter to the south. Here the pit also cut through earlier Formative cultural features. This pit was at least 40 cm deep, although the top of the pit was not noted during excavation or readily visible in the profile. It was filled with a dark organic sandy loam with charcoal flecking and a moderate number of sherds, mainly belonging to the Postclassic period. The function of this feature is unknown. The relatively low density of cultural material in the pit makes it likely that it was primarily the recipient of other types of materials, possibly burned and unburned organic matter.

No other Postclassic features were identified during this investigation. However, one radiocarbon date (GX-25530) of a carbon sample near but not in direct association with a Formative period feature yielded an uncalibrated date of 1060±55 A.D. (calibrated to 1020-1260 A.D. at 95.4% confidence using the Oxcal v3.0d program), which corresponds well with the expected age of the Postclassic materials.

The Formative Period Occupation

The ceramic and lithic assemblages point to a primarily domestic context for the Formative period occupation at this site, although there may have been some specialized activities at the site as well. Examination of the site profile in the gravel pit wall made it clear early in the investigation that artifact distribution was limited in area to a diameter of approximately 50 meters, suggesting either an isolated rural household unit or a household unit in a dispersed village context. The limited scope of this investigation and the extensive damage from gravel extraction in the area made distinction between these two possibilities difficult. However, a similar distribution of identical ceramic material was noted in another area of gravel extraction approximately 300 meters to the east, supporting the latter interpretation.

The Excavated Features

During our original discovery of this site we noted a feature of stones and burned materials eroding from the side of the gravel pit ([Figure 4.1](#)). Upon excavation (excavation unit 5) we found this to be a roughly circular feature consisting of several caps of different materials ([Figure 4.2](#)). This feature probably represents a dumping area for unused and/or waste materials. The ceramic material from this feature clearly belonged to the transitional Early to Middle Formative periods. Along the eastern edge of the base of this feature, we came across a layer of heavy gravel overlaying a patch of medium to large rounded stones, roughly oriented north-south ([Figure 4.3](#), shown below). This feature continued to the north beyond our excavation, and may be a continuation of similar stone and gravel pavements we discovered further east, as are described below. A Postclassic trash pit, discussed above, impacted both the dumping feature and the stone and gravel pavements.



Figure 4.1. Profile of Feature 5-1 (stone and burned clay pile).



Figure 4.2. Top of Feature 5-1 (stone and burned clay pile).



Figure 4.3. Feature 5-3 (stone pathway).

A test excavation one meter to the north (test excavation 3) uncovered a portion of a large pit dug 60 cm into the sterile gravel underlying the occupational layers. This one by one meter excavation uncovered only the eastern edge of the feature, indicating that it is well over a meter wide. The sides of this pit were straight and oriented slightly west of north. Formative period sherds were found within the pit, as was a large wide v-shaped lens of burnt clay and charcoal. The function of this feature is uncertain.

About eight meters east of these features we found a cap of burned clay, one to one and a half meters wide and over two and a half meters long (excavation 8, [Figure 5.1](#)), which was probably a section of fallen wall from a burned structure. Several pieces of daub from this feature exhibit cane or stick impressions, while others may show thatch impressions ([Figure 5.2](#), [Figure 5.3](#), and [Figure 5.4](#)). The actual structure (possibly a house) was probably located a meter or two to the west of this excavation.

Most of the Formative ceramic and lithic artifacts from this investigation came from a single large trash pit, partially dissected by modern gravel extraction. This pit lies five meters from the collapsed wall described above, and was excavated in excavation 4. The top of the pit was evidenced by a large, dark amorphous stain in the lighter surrounding soil ([Figure 6.1](#)). The pit was funnel-shaped, with an upper conical area three to four meters in diameter which tapered shallowly to a 1.5 meter diameter shaft dug 40 cm into the heavy gravel subsoil. Although cultural artifacts were found throughout the pit, it's base was almost completely filled with broken ceramics ([Figure 6.2](#), shown below).



Figure 5.1. Feature 8-1 (burned and collapsed wall).

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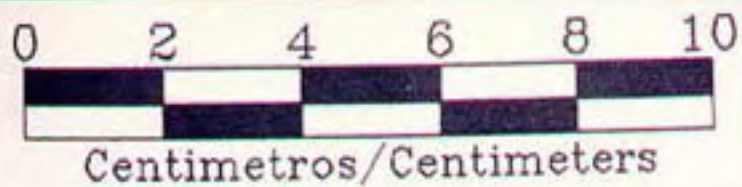


Figure 5.2. Daub with cane impressions from Feature 8-1.

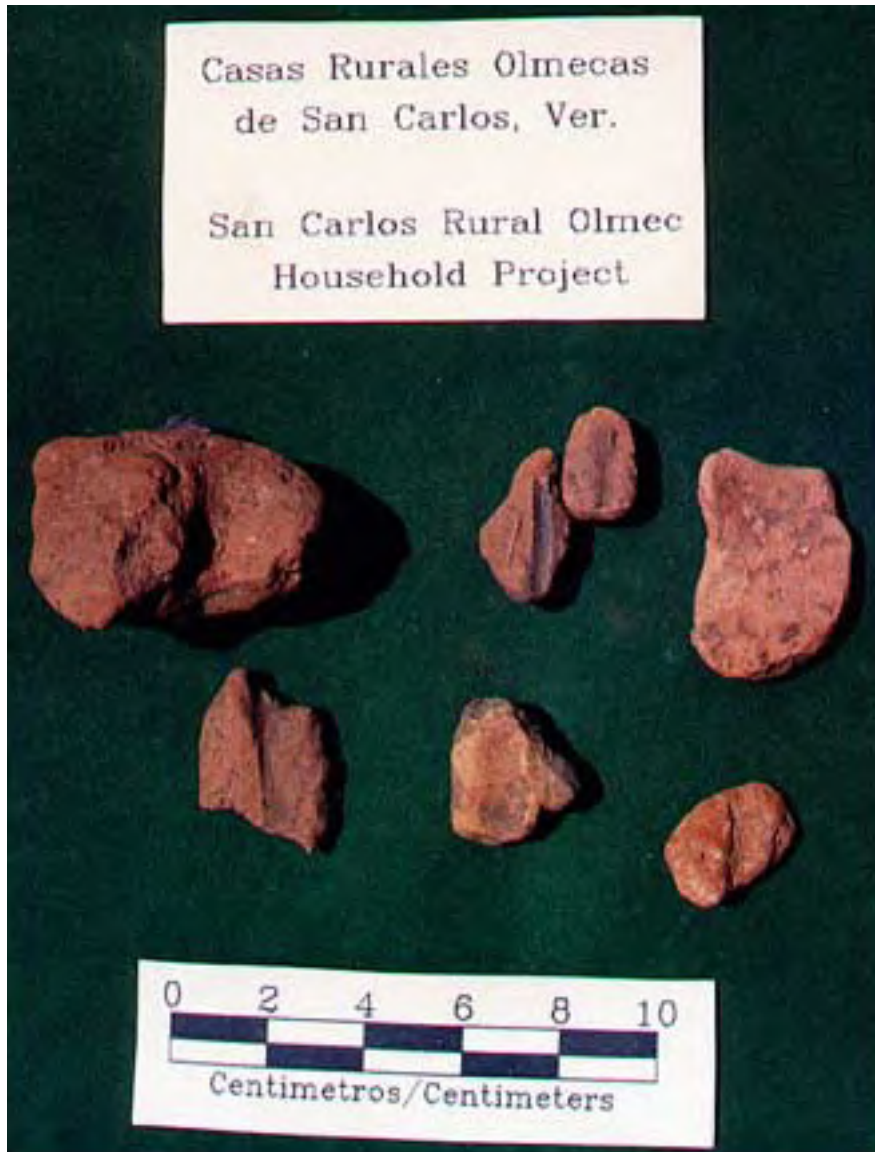


Figure 5.3. Daub with cane impressions from Feature 8-1.



Figure 5.4. Daub with thatch impressions from Feature 8-1.



Figure 6.1. Top of Feature 4-9 (Trash pit).



Figure 6.2. Feature 4-9 excavated, exposing ceramics near base of feature.

Two meters east of this feature we located a second pit, again excavated into the heavy gravel subsoil ([Figure 7.1](#), shown below). Much of the soil removed from this pit was deposited in the adjacent pit described above, indicating that these two features were contemporaneous. After some sherds were deposited at the base of the pit, it was refilled with almost completely sterile soil. The eastern edge of this feature was covered by a cobblestone pavement, and a rectangular fire pit was dug into it ([Figure 7.2](#)). The fire pit measured 70cm wide and 40cm deep, and the walls were of prepared and burned clay ([Figure 7.3](#)). Unfortunately, the southern portion of this feature was destroyed by recent gravel extraction. The interior of the pit was filled with burned soils and a considerable amount of burned clay, some of it in the form of burned adobe blocks.



Figure 7.1. Feature 4-10 (trash pit(?)) excavated.



Figure 7.2. Feature 4-5 (fire pit) and Features 6-1 and 6-2 (stone Pavements).

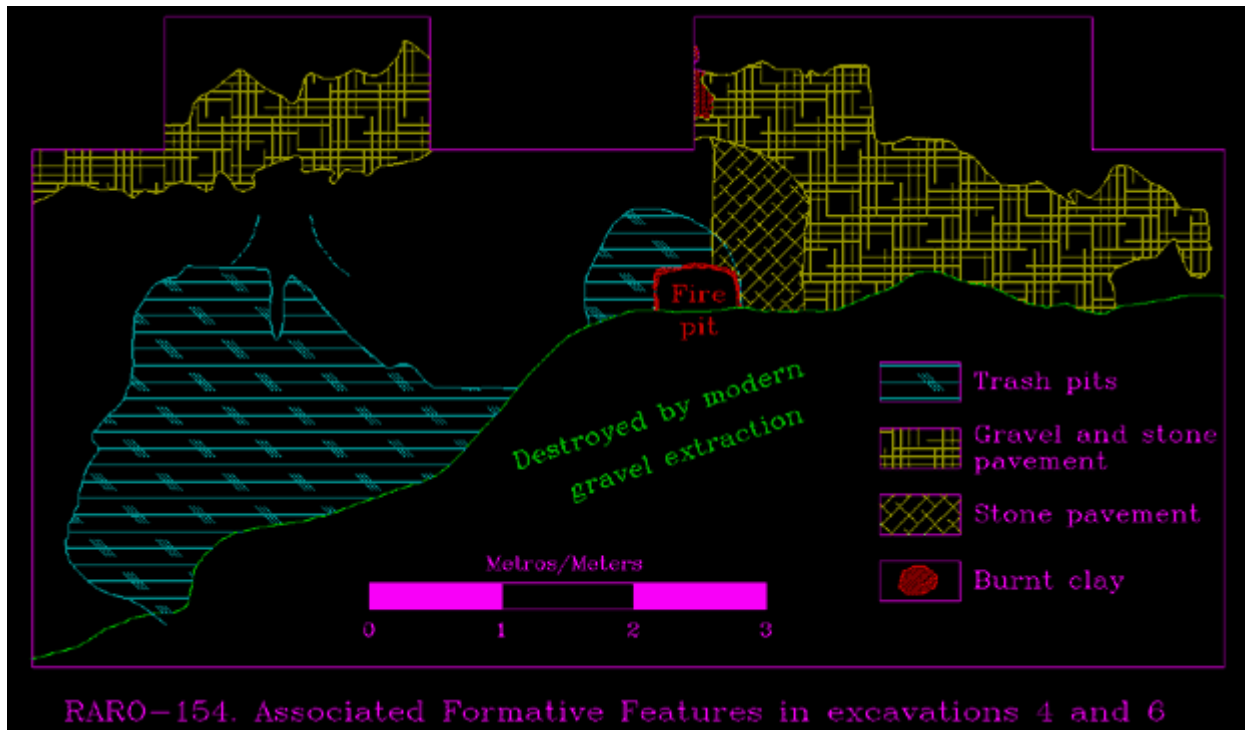


Figure 7.3. Feature 4-5 excavated. Note adobe blocks in feature.

Adjacent to this feature were two superimposed stone and gravel pavements (excavation 6; [Figure 8.1](#)). The southern edges of both were destroyed by modern gravel extraction. At first I thought that these might have been prepared housefloors, analogous to the bentonite floors reported for San Lorenzo (e.g. Aguilar Rojas, 1992; Cyphers, 1997:94-96). However, we found no direct evidence for domestic use or architecture such as postmolds. Moreover, it was noted that the northwest corner of the upper pavement curved around the fire pit and continued to the west. Although we did not excavate that section of the feature, it did appear again two meters to the west as an uneven gravel strip running almost exactly east-west, just to the north of the two pits described above ([Figure 8.2](#)). Similar cobblestone pavements were reported on Ridge D at San Lorenzo, also oriented toward the cardinal directions (Pajonares, 1999: figs 3.3, 3.4, 3.7, 3.8).



Figure 8.1. Feature 6-1 (stone and gravel pavement).



About 15 meters to the east of these features we uncovered another set of burned features (excavation 7). The most complete of these features was oriented east-west, measuring 2.8 meters long by 70cm wide and bordered by bright red burned clay, which contrasted with the surrounding sterile yellow clay ([Figure 9.1](#)). This feature was overlain in its eastern extreme by a similar feature or features oriented north-south. The soils inside these features were very dark, with discoloring due to burning, and included frequent charcoal and burned clay flecks. The features were about 20cm deep, with abundant pieces of irregular burned clay ([Figure 9.2](#), shown above). The bottom of the features, which rested directly on top of the heavy gravel subsoil, was covered with a 1-2cm thick ash layer ([Figure 9.3](#)). In extending the excavations to the north, we discovered a complex pattern of repeated constructions of these features, each overlapping the previous ([Figure 9.4](#), shown below). A thick stratum layer of discolored soil, virtually identical to the feature fill, overlaid these features. A carbon sample from these features was dated to 970±40 B.C. uncalibrated (GX-25529-AMS), giving a calibrated single sigma range of 1170-1010 B.C. using the OxCal v3.0d program.



Figure 9.1. Top of Feature 7-1 (fire pit).



Figure 9.2. Feature 7-1 excavated to expose burned clay fragments.



Figure 9.3. Feature 7-1 excavated to gravel base.



Figure 9.4. Burned wall fragments suggesting sequential building of fire pits.

The precise function of these features is unknown. Although fire pits, hearths, and kilns have been excavated in this part of Mesoamerica, elongated rectangular burned features like those reported here are almost unknown. These features are the result of some sort of frequently repeated activity, such as cooking/feasting, cremation, ceramic firing, or even adobe brick production, since fragments of adobe blocks were found inside some of these features. The fuel for the fire (probably wood) was almost completely converted to ash, leaving almost no carbon above the size of small flecks. This suggests a very high burning temperature, which completely consumed the fuel.

Underfired pottery sherds and smoothing stones found at the site suggest that at least some pottery production was local, although it is unclear whether these features were used in that production.

Artifact Distributions

It is possible to begin to reconstruct the likely size and organization of the house lot based on artifact distributions across the site as recovered from the 167 auger tests. [Figure 10.1](#) illustrates the density of Formative Period sherds (like those shown below in [Figure 10.2](#)) across the site by number of sherds. An area of high sherd densities runs across the center of the study zone in a roughly linear pattern from southeast to northwest, with some additional "hot spots", especially to the north and east. However, the main distribution of sherds is fairly confined to a width of around 40 to 50 meters.

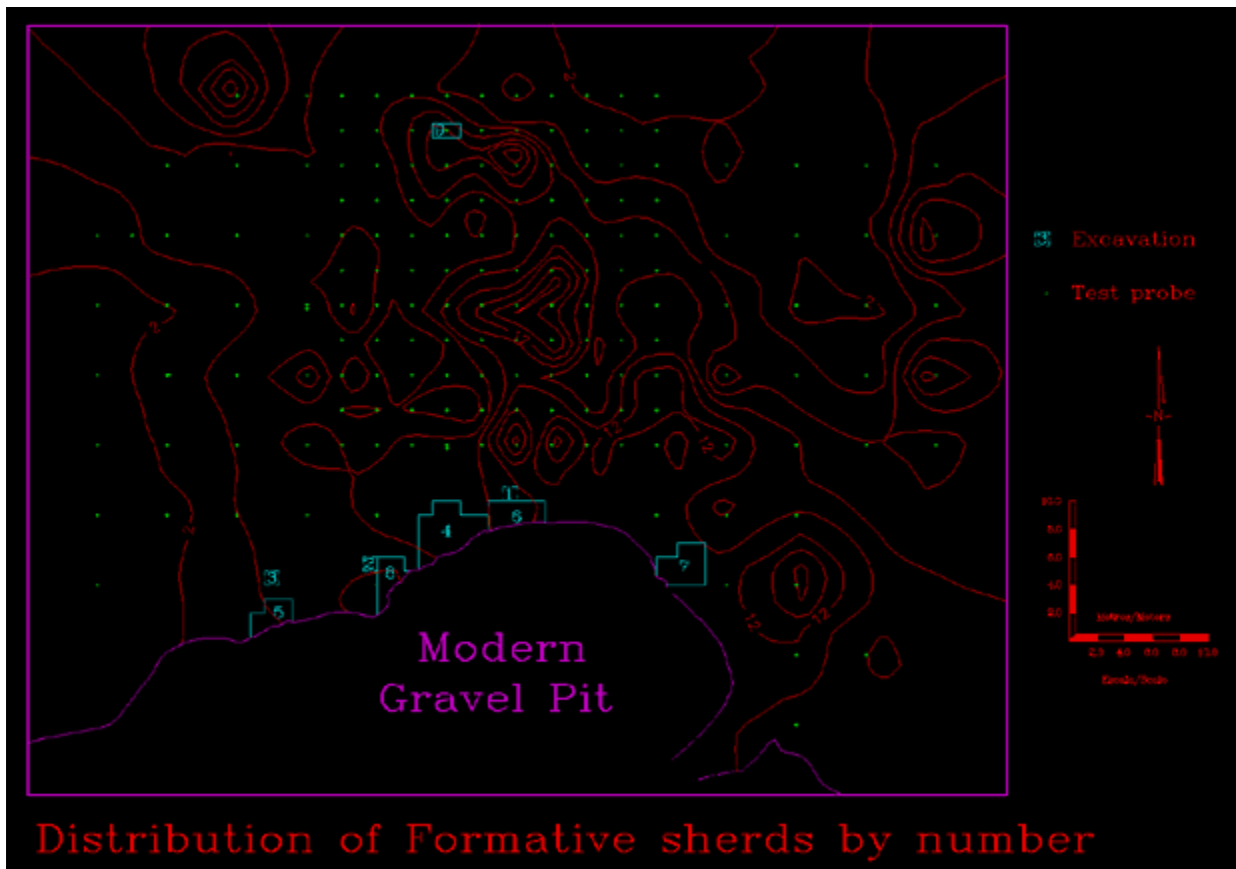


Figure 10.1. Distribution of Formative Period ceramics from test probes, by number of sherds.



Figure 10.2. Examples of Formative Period ceramics.

[Figure 11.1](#) illustrates the distribution of burned clay across the site as calculated by weight. A similar linear southeast to northwest pattern is evident here. The pattern is also punctuated by a number of "hot spots". Although the most obvious interpretation of these hot spots might be that they are burned daub from structures, I believe they are the debris from burning events similar to those evidenced by the fire pit features from Excavation 7. To test this, a small one by two meter test pit was placed at an area of high burned clay density (excavation 9). Shallow pits with abundant burned clay, although without the distinctive burned walls with squared corners, were uncovered, again resting atop the underlying sterile gravel layer ([Figure 11.2](#), shown below). Several features observable along the length of the gravel pit profile (see [Figure 2](#) at 10.3 meters, 42.5 meters, and 52.0 meters) may be other examples of similar features.



Figure 11.1. Distribution of burned clay from test probes, by weight.



Figure 11.2. Features with burned clay at the base of Excavation 9.

The Artifact Assemblage

The Formative ceramics found at RARO-154 share types and characteristics indicative of both the San Lorenzo B and Nacaste phases described by Coe and Diehl (1980a:159-200) for San Lorenzo Tenochtitlán, and probably represent a transition period between the two. Tecomates and straight and out-slanting bowls are the most common vessel forms, while some other forms such as stools or braziers, large necked ollas, and even a tiny Tatagapa Red jar were found in smaller numbers (see [Figure 10.2](#)). Decorated sherds are common ([Figure 12.1](#), [Figure 12.2](#), [Figure 12.3](#), [Figure 12.4](#), [Figure 12.5](#), [Figure 12.6](#), [Figure 13.1](#), [Figure 13.2](#), shown below). A variety of figurine fragments are also present, including the figurine heads in [Figure 13.3](#), shown below, one in clear Olmec style with helmet and slanted eyes, the other with the punched pupils and applique eyes more reflective of San Lorenzo's Nacaste phase (Coe and Diehl, 1980a:277).



Figure 12.1. Incised bowl with creme bath.



Figure 12.2. Incised Yagua Orange plate with possible fish design.



Figure 12.3. Yagua Orange with Specular Red paint and rope design incising.



Figure 12.4. Yagua Orange with incised and carved designs.



Figure 12.5. Various incised, carved, and perforated sherds.



Figure 12.6. Differentially fired plates and bowl.



Figure 13.1. Eroded incised bowl.



Figure 13.2. Eroded carved bowl, with possible Fire-serpent motif.



Figure 13.3. Figurine heads.

Obsidian was also found in abundance, with blade technology clearly dominant. Obsidian colors tend to be clear, often with heavy-banded inclusions, and gray, with black obsidian present in smaller quantities. Ground stone tools were infrequently found *in situ*, but consist of metate fragments, several stone polishers, cobble hammerstones, and one possible small figurine fragment.

Organic material collected during investigation and from flotation samples taken from all excavated contexts are currently being analyzed at the Department of Anthropology at the University of North Carolina. Results of that analysis are not yet available.

Preliminary Results of the Investigation

The Formative period ceramic assemblage shows elements of both the San Lorenzo B and Nacaste Phases as described by Coe and Diehl, and is clearly transitional between them. Those authors place this transition at approximately 900 B.C. However, the uncalibrated date of 970±40 B.C. suggests a slightly earlier date for the introduction of several ceramic traits generally considered to be Middle Formative markers (such as incised single and multiple line motifs on everted rims) than has been previously considered. Moreover, the transitional characteristics of this ceramic assemblage argue for a gradual transformation between these two ceramic complexes rather than "an outside invasion by a people who introduced the radically different ceramic and figurine complexes of the Nacaste phase" (Coe and Diehl, 1980b:152).

Based on the data gathered from these excavations, it is also possible to note a few interesting patterns. Wattle and daub construction was in use at the site, apparently with vertically placed poles as wall support and thatch for roofing material. Adobe bricks of varying sizes were found, although never in a building context. Intriguingly, just about every cultural feature, from the fire pit features to the stone path and the burned and collapsed wall, are oriented toward the cardinal directions. This implies considerable conformity to some type of preconceived norm, either observed at the household level or compelled from a higher organizing force, which may be rather surprising in this comparatively peripheral setting. Alignments of 8° west of north are noted for La Venta ceremonial architecture later in the Middle Formative, although we currently do not know if domestic architecture also conformed to that alignment.

Artifact dispersal suggests an approximately 50 meter diameter for houselot dimensions in this context. This area would include covered spaces and cleared activity or staging areas, with an outside ring of fairly concentrated refuse at the edges, in a pattern similar to domestic spaces described by Thomas Killion in his houselot models for the nearby Tuxtla mountains region (Killion, 1992). The sequential use of long fire pits suggest some type of intensive or repetitive specialized activity, although we don't yet know what that activity was or how it contributed to the household and regional socioeconomic systems.

Finally, it is important to note that this household did have access to quantities of decorated and painted ceramics, figurines, and possibly small stone carvings, suggesting that access to these elaborated luxury goods was not limited to central places, or, perhaps, elite status. The occupants also appear to have had ready access to obsidian. In other words this household, while rural, was not impoverished.

This excavation is just one step toward developing a clearer picture of what was happening at the most basic levels of Olmec social organization. We need to keep collecting information on the household and community levels of social organization in order to understand the elemental characteristics of how this society was organized, not just at the major political and ceremonial centers, but in terms of the entire regional sociopolitical system.

Acknowledgements

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